

Other Attachment File(s)

* Mandatory Other Attachment Filename:

Add Mandatory Other Attachment

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To add more "Other Attachment" attachments, please use the attachment buttons below.

Add Optional Other Attachment

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Project Narrative File(s)

* **Mandatory Project Narrative File Filename:**

To add more Project Narrative File attachments, please use the attachment buttons below.

BUDGET INFORMATION - Non-Construction Programs

OMB Number: 4040-0006
Expiration Date: 02/28/2022

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. ENHANCED AIR QUALITY MONITORING FOR COMMUNITIES - FFY2023	66.034	\$	\$	262,793.00	\$	262,793.00
2. ENHANCED AIR QUALITY MONITORING FOR COMMUNITIES - FFY2024	66.034			84,650.00		84,650.00
3. ENHANCED AIR QUALITY MONITORING FOR COMMUNITIES - FFY2025	66.034			30,000.00		30,000.00
4.						
5. Totals		\$	\$	377,443.00	\$	377,443.00

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SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
	(1)	(2)	(3)	(4)	
	ENHANCED AIR QUALITY MONITORING FOR COMMUNITIES - FFY2023	ENHANCED AIR QUALITY MONITORING FOR COMMUNITIES - FFY2024	ENHANCED AIR QUALITY MONITORING FOR COMMUNITIES - FFY2025		
a. Personnel	\$ 18,093.00	\$ 0.00	\$ 0.00	\$	\$ 18,093.00
b. Fringe Benefits	12,430.00	0.00	0.00		12,430.00
c. Travel	0.00	0.00	0.00		0.00
d. Equipment	63,000.00	0.00	0.00		63,000.00
e. Supplies	136,325.00	52,650.00	0.00		188,975.00
f. Contractual	0.00	0.00	0.00		0.00
g. Construction	0.00	0.00	0.00		0.00
h. Other	25,000.00	32,000.00	30,000.00		87,000.00
i. Total Direct Charges (sum of 6a-6h)	254,848.00	84,650.00	30,000.00		\$ 369,498.00
j. Indirect Charges	7,945.00	0.00	0.00		\$ 7,945.00
k. TOTALS (sum of 6i and 6j)	\$ 262,793.00	\$ 84,650.00	\$ 30,000.00	\$	\$ 377,443.00
7. Program Income	\$ 0.00	\$ 0.00	\$ 0.00	\$	\$ 0.00

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SECTION C - NON-FEDERAL RESOURCES				
(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e)TOTALS
8. ENHANCED AIR QUALITY MONITORING FOR COMMUNITIES - FFY2023	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
9. ENHANCED AIR QUALITY MONITORING FOR COMMUNITIES - FFY2024	0.00	0.00	0.00	0.00
10. ENHANCED AIR QUALITY MONITORING FOR COMMUNITIES - FFY2025	0.00	0.00	0.00	0.00
11.				
12. TOTAL (sum of lines 8-11)	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00

SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$ 262,793.00	\$ 65,699.00	\$ 65,698.00	\$ 65,698.00	\$ 65,698.00
14. Non-Federal					
15. TOTAL (sum of lines 13 and 14)	\$ 262,793.00	\$ 65,699.00	\$ 65,698.00	\$ 65,698.00	\$ 65,698.00

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT				
(a) Grant Program	FUTURE FUNDING PERIODS (YEARS)			
	(b)First	(c) Second	(d) Third	(e) Fourth
16. ENHANCED AIR QUALITY MONITORING FOR COMMUNITIES - FFY2023	\$	\$	\$	\$
17. ENHANCED AIR QUALITY MONITORING FOR COMMUNITIES - FFY2024	84,650.00			
18. ENHANCED AIR QUALITY MONITORING FOR COMMUNITIES - FFY2025		30,000.00		
19.				
20. TOTAL (sum of lines 16 - 19)	\$ 84,650.00	\$ 30,000.00	\$	\$

SECTION F - OTHER BUDGET INFORMATION	
21. Direct Charges: \$369,498	22. Indirect Charges: \$7,945
23. Remarks: Indirect rate is based on indirect rate approved starting 7/1/2022 of 26.03%.	

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EPA KEY CONTACTS FORM

OMB Number: 2030-0020
Expiration Date: 06/30/2024

Authorized Representative: *Original awards and amendments will be sent to this individual for review and acceptance, unless otherwise indicated.*

Name:	Prefix: Mr.	First Name: Darrin	Middle Name:
	Last Name: Bodner		Suffix:
Title:	Executive Deputy Secretary for Admin. & Mgmt.		
Complete Address:			
Street1:	400 Market Street, 16th Floor RCSOB		
Street2:			
City:	Harrisburg	State:	PA: Pennsylvania
Zip / Postal Code:	17101	Country:	USA: UNITED STATES
Phone Number:	717-772-5964	Fax Number:	717-783-7244
E-mail Address:	RA-EPFISCALGRANTS@pa.gov		

Payee: *Individual authorized to accept payments.*

Name:	Prefix: Ms.	First Name: Stephanie	Middle Name:
	Last Name: Clark		Suffix:
Title:	Commonwealth Account Manager		
Complete Address:			
Street1:	555 Walnut Street, 9th Floor		
Street2:			
City:	Harrisburg	State:	PA: Pennsylvania
Zip / Postal Code:	17101	Country:	USA: UNITED STATES
Phone Number:	717-425-6623	Fax Number:	717-425-6647
E-mail Address:	stephaniec@pa.gov		

Administrative Contact: *Individual from Sponsored Programs Office to contact concerning administrative matters (i.e., indirect cost rate computation, rebudgeting requests etc).*

Name:	Prefix: Ms.	First Name: Jennifer	Middle Name:
	Last Name: Brandt		Suffix:
Title:	Senior Fiscal Management Specialist		
Complete Address:			
Street1:	400 Market Street, 15th Floor RCSOB		
Street2:			
City:	Harrisburg	State:	PA: Pennsylvania
Zip / Postal Code:	17101	Country:	USA: UNITED STATES
Phone Number:	717-783-4539	Fax Number:	717-783-7244
E-mail Address:	jennbrandt@pa.gov		

EPA KEY CONTACTS FORM

Project Manager: *Individual responsible for the technical completion of the proposed work.*

Name: **Prefix:** Mr. **First Name:** Nicholas **Middle Name:**

Last Name: Lazor **Suffix:**

Title: Air Quality Monitoring Division Chief

Complete Address:

Street1: 400 Market Street, 12th Floor RCSOB

Street2:

City: Harrisburg

State: PA: Pennsylvania

Zip / Postal Code: 17105

Country: USA: UNITED STATES

Phone Number: 717-783-9268

Fax Number: 717-772-3415

E-mail Address: nlazor@pa.gov



Widener University

College of Arts and Sciences
Department of Chemistry

March 10, 2022

Mr. Nick Lazor

Air Quality Monitoring Division Chief
Pennsylvania Department of Environmental Protection
Rachel Carson State Office Building
400 Market Street, Harrisburg, PA 17105

Dear Mr. Lazor:

I am writing to express my interest in the data generated by your research project entitled: Enhanced PM monitoring in the Environmental Justice communities of the Delaware County Waterfront in response to Enhanced Air Monitoring for Communities RFA# EPA-OAR-OAQPS-22-01.

I have extensive experience with air monitoring and I have been working with community groups in the city of Chester to look at air pollution and have some experience with low cost PM-10 monitors. The opportunity to add significantly to this network and bring in resources to make this information more available to the public could really make a difference in this environmental justice community.

The openly available datasets generated from the approximately 50 low cost sensors acquired and installed as planned in this project would be available for use in both research projects as well as a teaching resource for students interested in air quality issues. We are hopeful that this project is selected for funding and becomes a resource for both the residents served by the enhanced monitoring investment and the research and teaching communities in the region.

Respectfully,

Scott Van Bramer
Professor of Chemistry and
Distinguished University Professor (2014-2017)

Application for Federal Assistance SF-424

* 1. Type of Submission:

- ☐ Preapplication
☒ Application
☐ Changed/Corrected Application

* 2. Type of Application:

- ☒ New
☐ Continuation
☐ Revision

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received:

03/22/2022

4. Applicant Identifier:

5a. Federal Entity Identifier:

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name:

PA Department of Environmental Protection

* b. Employer/Taxpayer Identification Number (EIN/TIN):

23-2632825

* c. Organizational DUNS:

1356688870000

d. Address:

* Street1:

400 Market Street

Street2:

PO Box 2063

* City:

Harrisburg

County/Parish:

* State:

PA: Pennsylvania

Province:

* Country:

USA: UNITED STATES

* Zip / Postal Code:

17101-2301

e. Organizational Unit:

Department Name:

Environmental Protection

Division Name:

Bureau of Air Quality

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:

Mr.

* First Name:

Nicholas

Middle Name:

* Last Name:

Lazor

Suffix:

Title:

Air Quality Monitoring Division Chief

Organizational Affiliation:

Bureau of Air Quality

* Telephone Number:

717-783-9268

Fax Number:

717-772-3415

* Email:

nlazor@pa.gov

Application for Federal Assistance SF-424

* 9. Type of Applicant 1: Select Applicant Type:

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

* 10. Name of Federal Agency:

Environmental Protection Agency

11. Catalog of Federal Domestic Assistance Number:

66.034

CFDA Title:

Surveys, Studies, Research, Investigations, Demonstrations, and Special Purpose Activities
Relating to the Clean Air Act

* 12. Funding Opportunity Number:

EPA-OAR-OAQPS-22-01

* Title:

Enhanced Air Quality Monitoring for Communities

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment

Delete Attachment

View Attachment

* 15. Descriptive Title of Applicant's Project:

Enhanced PM monitoring in the Environmental Justice communities of the Delaware County Waterfront

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

Application for Federal Assistance SF-424**16. Congressional Districts Of:**

* a. Applicant PA-10

* b. Program/Project PA-05

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment

Delete Attachment

View Attachment

17. Proposed Project:

* a. Start Date: 10/01/2022

* b. End Date: 09/30/2025

18. Estimated Funding (\$):

* a. Federal	377,443.00
* b. Applicant	0.00
* c. State	0.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	377,443.00

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

- ☒ a. This application was made available to the State under the Executive Order 12372 Process for review on 03/15/2022 .
- ☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- ☐ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment

Delete Attachment

View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: Mr. * First Name: Darrin

Middle Name:

* Last Name: Bodner

Suffix:

* Title: Executive Deputy Secretary for Admin. & Mgmt.

* Telephone Number: 717-772-5964 Fax Number: 717-783-7244

* Email: RA-EPFISCALGRANTS@pa.gov

* Signature of Authorized Representative: Darrin Bodner * Date Signed: 03/22/2022

Preaward Compliance Review Report for All Applicants and Recipients Requesting EPA Financial Assistance

Note: Read Instructions before completing form.

I. A. Applicant/Recipient (Name, Address, City, State, Zip Code)

Name:

Address:

City:

State: Zip Code:

B. DUNS No.

II. Is the applicant currently receiving EPA Assistance? ☒ Yes ☐ No

III. List all civil rights lawsuits and administrative complaints pending against the applicant/recipient that allege discrimination based on race, color, national origin, sex, age, or disability. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7.)

IV. List all civil rights lawsuits and administrative complaints decided against the applicant/recipient within the last year that allege discrimination based on race, color, national origin, sex, age, or disability and enclose a copy of all decisions. Please describe all corrective actions taken. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7.)

V. List all civil rights compliance reviews of the applicant/recipient conducted by any agency within the last two years and enclose a copy of the review and any decisions, orders, or agreements based on the review. Please describe any corrective action taken. (40 C.F.R. § 7.80(c)(3))

VI. Is the applicant requesting EPA assistance for new construction? If no, proceed to VII; if yes, answer (a) and/or (b) below.

☐ Yes ☒ No

a. If the grant is for new construction, will all new facilities or alterations to existing facilities be designed and constructed to be readily accessible to and usable by persons with disabilities? If yes, proceed to VII; if no, proceed to VI(b).

☐ Yes ☐ No

b. If the grant is for new construction and the new facilities or alterations to existing facilities will not be readily accessible to and usable by persons with disabilities, explain how a regulatory exception (40 C.F.R. 7.70) applies.

VII. Does the applicant/recipient provide initial and continuing notice that it does not discriminate on the basis of race, color, national origin, sex, age, or disability in its program or activities? (40 C.F.R. 5.140 and 7.95)

☒ Yes ☐ No

a. Do the methods of notice accommodate those with impaired vision or hearing?

☒ Yes ☐ No

b. Is the notice posted in a prominent place in the applicant's offices or facilities or, for education programs and activities, in appropriate periodicals and other written communications?

☒ Yes ☐ No

c. Does the notice identify a designated civil rights coordinator?

☒ Yes ☐ No

VIII. Does the applicant/recipient maintain demographic data on the race, color, national origin, sex, age, or handicap of the population it serves? (40 C.F.R. 7.85(a))

☒ Yes ☐ No

IX. Does the applicant/recipient have a policy/procedure for providing access to services for persons with limited English proficiency? (40 C.F.R. Part 7, E.O. 13166)

☒ Yes ☐ No

- X. If the applicant is an education program or activity, or has 15 or more employees, has it designated an employee to coordinate its compliance with 40 C.F.R. Parts 5 and 7? Provide the name, title, position, mailing address, e-mail address, fax number, and telephone number of the designated coordinator.**

See Attachment (EPA-CEP-01)

- XI. If the applicant is an education program or activity, or has 15 or more employees, has it adopted grievance procedures that assure the prompt and fair resolution of complaints that allege a violation of 40 C.F.R. Parts 5 and 7? Provide a legal citation or Internet Address for, or a copy of, the procedures.**

See Attachments (DEP Nondiscrimination Policy & MD 410.10)

For the Applicant/Recipient

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law. I assure that I will fully comply with all applicable civil rights statutes and EPA regulations.

A. Signature of Authorized Official

Darrin Bodner

B. Title of Authorized Official

Executive Deputy Secretary for Admin. & Mgmt.

C. Date

03/22/2022

For the U.S. Environmental Protection Agency

I have reviewed the information provided by the applicant/recipient and hereby certify that the applicant/recipient has submitted all preaward compliance information required by 40 C.F.R. Parts 5 and 7; that based on the information submitted, this application satisfies the preaward provisions of 40 C.F.R. Parts 5 and 7; and that the applicant has given assurance that it will fully comply with all applicable civil rights statutes and EPA regulations.

A. *Signature of Authorized EPA Official

B. Title of Authorized Official

C. Date

*** See Instructions**

Instructions for EPA FORM 4700-4 (Rev. 06/2014)

General. Recipients of Federal financial assistance from the U.S. Environmental Protection Agency must comply with the following statutes and regulations.

Title VI of the Civil Rights Acts of 1964 provides that no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. The Act goes on to explain that the statute shall not be construed to authorize action with respect to any employment practice of any employer, employment agency, or labor organization (except where the primary objective of the Federal financial assistance is to provide employment). Section 13 of the 1972 Amendments to the Federal Water Pollution Control Act provides that no person in the United States shall on the ground of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under the Federal Water Pollution Control Act, as amended. Employment discrimination on the basis of sex is prohibited in all such programs or activities. Section 504 of the Rehabilitation Act of 1973 provides that no otherwise qualified individual with a disability in the United States shall solely by reason of disability be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. Employment discrimination on the basis of disability is prohibited in all such programs or activities. The Age Discrimination Act of 1975 provides that no person on the basis of age shall be excluded from participation under any program or activity receiving Federal financial assistance. Employment discrimination is not covered. Age discrimination in employment is prohibited by the Age Discrimination in Employment Act administered by the Equal Employment Opportunity Commission. Title IX of the Education Amendments of 1972 provides that no person in the United States on the basis of sex shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance. Employment discrimination on the basis of sex is prohibited in all such education programs or activities. Note: an education program or activity is not limited to only those conducted by a formal institution. 40 C.F.R. Part 5 implements Title IX of the Education Amendments of 1972. 40 C.F.R. Part 7 implements Title VI of the Civil Rights Act of 1964, Section 13 of the 1972 Amendments to the Federal Water Pollution Control Act, and Section 504 of The Rehabilitation Act of 1973. The Executive Order 13166 (E.O. 13166) entitled; "Improving Access to Services for Persons with Limited English Proficiency" requires Federal agencies work to ensure that recipients of Federal financial assistance provide meaningful access to their LEP applicants and beneficiaries.

Items "Applicant" means any entity that files an application or unsolicited proposal or otherwise requests EPA assistance. 40 C.F.R. §§ 5.105, 7.25. "Recipient" means any entity, other than applicant, which will actually receive EPA assistance. 40 C.F.R. §§ 5.105, 7.25. "Civil rights lawsuits and administrative complaints" means any lawsuit or administrative complaint alleging discrimination on the basis of race, color, national origin, sex, age, or disability pending or decided against the applicant and/or entity which actually benefits from the grant, but excluding employment complaints not covered by 40 C.F.R. Parts 5 and 7. For example, if a city is the named applicant but the grant will actually benefit the Department of Sewage, civil rights lawsuits involving both the city and the Department of Sewage should be listed. "Civil rights compliance review" means any review assessing the applicant's and/or recipient's compliance with laws prohibiting discrimination on the basis of race, color, national origin, sex, age, or disability. Submit this form with the original and required copies of applications, requests for extensions, requests for increase of funds, etc. Updates of information are all that are required after the initial application submission. If any item is not relevant to the project for which assistance is requested, write "NA" for "Not Applicable." In the event applicant is uncertain about how to answer any questions, EPA program officials should be contacted for clarification. * Note: Signature appears in the Approval Section of the EPA Comprehensive Administrative Review For Grants/Cooperative Agreements & Continuation/Supplemental Awards form.

MANAGEMENT DIRECTIVE

Commonwealth of Pennsylvania Governor's Office

Subject:

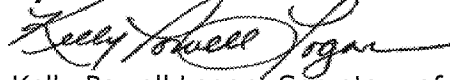
Guidelines for Investigating and Resolving
Internal Discrimination Complaints

Number:

410.10 Amended

Date:

December 5, 2012

By Direction of:

Kelly Powell Logan, Secretary of
Administration

Contact Agency:

Office of Administration, Office for Human Resources Management, Bureau of Equal
Employment Opportunity, Telephone 717.783.1130

This directive establishes policy, responsibilities, and procedures to be followed when investigating and resolving internal discrimination complaints. This amendment has been updated to include definitions and outlines specific responsibilities and procedures. Marginal dots are excluded due to major changes.

- 1. PURPOSE.** To establish policy, responsibilities, and procedures for investigating and resolving internal complaints of discrimination.
- 2. SCOPE.**
 - a. This directive applies to all departments, boards, commissions, and councils (hereinafter referred to as "agencies") under the Governor's jurisdiction.
 - b. The procedures outlined in this directive apply to investigations of internal complaints of discrimination. Harassment, including sexual harassment, is a form of employment discrimination, which is prohibited pursuant to commonwealth policy; thus, all references to "discriminatory" actions also apply to harassment.
- 3. OBJECTIVES.**
 - a. To ensure that the investigations of internal complaints of discrimination are conducted in a professional, impartial, and prompt manner.

- b. To outline policy and procedures for investigating and resolving internal complaints of discrimination.
- c. To set forth the commonwealth's policy on retaliation, as it relates to internal complaints of discrimination.

4. DEFINITIONS.

- a. **Complaint.** A written or verbal notification alleging unlawful employment discrimination. A complaint is considered filed when it is received by the proper official or office.
- b. **Discrimination.** Unequal treatment based on membership in a class protected by law or by commonwealth policy including race, color, religious creed, ancestry, age, sex, sexual orientation, gender identity or expression, national origin, AIDS or HIV status, disability or union membership.
 - (1) A facially neutral policy that results in a disproportionate negative impact on a specific protected class may constitute discrimination.
 - (2) Discrimination may involve single or continuing actions.
- c. **Sexual Harassment.** Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when:
 - (1) Submission to such conduct is made explicitly or implicitly a term or condition of an individual's employment.
 - (2) Submission to or rejection of such conduct by an individual is used as the basis for employment decisions affecting such individuals.
 - (3) Such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or of creating an intimidating, hostile, or offensive work environment.

5. POLICY.

- a. Executive Order 2003-10, Equal Employment Opportunity, prohibits discrimination against any employee or applicant for employment because of race, color, religious creed, ancestry, union membership, age, gender, sexual orientation, gender identity or expression, national origin, AIDS or HIV status, or disability; authorizes the Office of Administration, Office for Human Resources Management, Bureau of Equal Employment Opportunity (BEEO), to review agency equal employment opportunity files at anytime.
- b. Executive Order 2002-4, Prohibition of Sexual Harassment in the Commonwealth, prohibits sexual harassment by any commonwealth employee against any other employee, applicant for employment, client, or other person receiving services from or conducting business with the commonwealth; prohibits acts of sexual harassment by persons not employed by the commonwealth against employees of the commonwealth in the performance of their duties.

- c. *Management Directive 505.7, Personnel Rules*, states that every effort is to be exerted to end discrimination against members of minority groups and women at every level of employment, including recruitment, selection, appointment, promotion, training, delegation, and decision making.
- d. **Retaliation.** Retaliation against persons who have lodged a complaint, testified, assisted, or participated in any proceeding, investigation, or hearing regarding any allegation of discrimination is expressly prohibited. Retaliation includes, but is not limited to: harassing behavior, isolation, changing work assignments, making demands that appear work-related but have a retaliatory purpose, directing, prompting, or encouraging others to commit retaliatory acts.

6. RESPONSIBILITIES.

- a. **The Secretary of Administration** shall direct the development, implementation and administration of the commonwealth's policies governing procedures for investigation and resolution of internal complaints of discrimination, through BEEC.
- b. **The Office of Administration, Office of Human Resources Management, Bureau of Equal Employment Opportunity** shall:
 - (1) Develop and disseminate procedures for administering the policy governing the investigation and resolution of internal complaints of discrimination.
 - (2) Oversee the internal complaint process whereby applicants and employees may file complaints alleging violations of commonwealth discrimination policies.
 - (3) Provide technical assistance, information and training on investigation of internal complaints of discrimination to agency Equal Opportunity Officers and other agency staff involved in investigations.
 - (4) Where appropriate, investigate complaints of discrimination that have been forwarded from agencies due to a reasonably perceived or actual conflict of interest, or where circumstances otherwise warrant.
 - (5) When requested by complainants, after internal reconsideration, as permitted in 7. b. (11) of this directive, review agency determinations and determine appropriate disposition.
- c. **Agency Heads** shall:
 - (1) Designate a Responsible Agency Official for discrimination-related employment issues.
 - (2) Designate an agency Equal Opportunity Officer who has equal employment opportunity and human resources knowledge.
 - (3) Designate an agency official to review Requests for Reconsideration and provide notification as required in 7. b. (11) (c).

- (4) Require that all provisions of this directive and employment discrimination laws are complied with and integrated into commonwealth human resource policies and training programs.
- (5) Provide information to all employees and, upon request, to job applicants regarding the provisions of this directive, the process for investigating and resolving internal complaints of discrimination, and other avenues of recourse.
- (6) Develop and provide education and technical assistance for managers and supervisors regarding discrimination-related employment responsibilities, including the procedures for the filing of internal complaints of discrimination by employees.

d. Responsible Agency Officials shall:

- (1) Consider and effectuate appropriate measures consistent with applicable collective bargaining agreements or civil service rules to protect employees where necessary.
- (2) Upon completion of an investigation and receipt of the case file, meet with the agency Equal Opportunity Officer and/or the agency's legal counsel to discuss the investigation and determine whether the complaint allegations have been substantiated.
- (3) Notify the complainant of the outcome of the investigation and his/her right to internal reconsideration or appeal to BEEC as appropriate, as set forth in 7. b. (10) (11) and (12) of this directive.
- (4) Notify the alleged offender of the outcome of the investigation.
- (5) Document all actions taken and communications related to the investigation.
- (6) Receive requests for withdrawal of internal employment discrimination complaints and determine the appropriate action.

e. Agency Legal Counsel shall:

- (1) Provide guidance and legal advice to agency Equal Opportunity Officers as appropriate.
- (2) Upon completion of an investigation and receipt of the case file, where appropriate, meet with the agency Equal Opportunity Officer and Responsible Agency Official to discuss the investigation.
- (3) Assume responsibility for the investigation where an individual files a complaint with the Pennsylvania Human Relations Commission (PHRC), United States Equal Employment Opportunity Commission (EEOC), state or federal court, etc.
 - (a) Notify the agency Equal Opportunity Officer of such filing whether or not a previous internal complaint has been filed.

f. Agency Equal Opportunity Officers shall:

- (1)** Upon receipt of a complaint, issue a written acknowledgement of complaint and information on the commonwealth's mediation program.
- (2)** Upon receiving a complaint, assess whether immediate steps should be taken to protect an employee.
- (3)** Provide the following notifications:
 - (a)** Notify the Responsible Agency Official and other management personnel (who have a legitimate need to know) of the filing of the complaint.
 - (b)** Notify BEEO Director of all cases where the agency head or Responsible Agency Official is identified as the alleged offender.
 - (c)** Notify the Responsible Agency Official, BEEO Director and the Governor's General Counsel of all cases where an agency Chief Counsel is identified as the alleged offender.
 - (d)** Notify the Responsible Agency Official, BEEO Director and the agency Chief Counsel of all cases where an agency Assistant Counsel is identified as the alleged offender.
 - (e)** Notify the Responsible Agency Official in cases where actions should be taken to protect an employee.
 - (f)** Notify the Responsible Agency Official and agency Legal Counsel where an individual files with PHRC, EEOC, state or federal court, etc.
- (4)** Confer with complainant and other concerned parties, as required, and if appropriate, attempt to resolve the complaint informally.
- (5)** Create investigative files and plans, conduct investigations and upon completion of investigations, assemble case files.
- (6)** Create and maintain investigative log/chronology that documents all events, correspondence and communications.
- (7)** Maintain confidentiality and disclose information regarding the investigation only on an as need to know basis.
- (8)** Upon completion of the investigation, submit a copy of the case file to the Responsible Agency Official as set forth in 7. b. (9) (b) of this directive.
- (9)** Meet with the Responsible Agency Official and/or agency Legal Counsel to discuss the investigation.
- (10)** Maintain records and submit reports and other information as required by BEEO.

g. Agency Managers and Supervisors shall promptly report all internal complaints of discrimination to the agency Equal Opportunity Officer.

7. PROCEDURES.

a. Filing a Complaint of Discrimination.

- (1)** Employees who believe that they have been subjected to discrimination because of race, color, religious creed, ancestry, union membership, age, gender, sexual orientation, gender identity or expression, national origin, AIDS or HIV status, or disability may file a complaint with the agency Equal Opportunity Officer of the agency where the alleged act of discrimination occurred.
- (2)** There is no requirement that a complaint be in writing or conform to a specific format. However, where a verbal complaint is received, and it is determined that an investigation is warranted, every effort must be made to obtain a written complaint, preferably on the standard Form STD-486C, Equal Employment Opportunity Discrimination Complaint Form; refer to Enclosure 1 of this directive.
- (3) Timeframe.** All internal complaints of discrimination must be filed within 90 calendar days of the alleged act of discrimination.
- (4) Conflict of Interest.** Where there is a perceived or actual conflict of interest, the agency Equal Opportunity Officer shall consult with the Responsible Agency Official to determine whether the complaint should be investigated by another agency employee or the appropriateness of submitting a request to BEEO to conduct the investigation.
- (5) Other Avenues of Recourse.** At any time the complainant may elect to file a complaint with the following agencies within the required time frames.

Pennsylvania Human Relations Commission www.phrc.state.pa.us

Harrisburg Regional Office Voice: 717.787.9784; TTY: 717.787.7279

Philadelphia Regional Office Voice: 215.560.2496; TTY: 215.560.3599

Pittsburgh Regional Office Voice: 412.565.5395; TTY: 412.565.5711

Time Frame: 180 days from date of alleged discrimination

U.S. Equal Employment Opportunity Commission www.eeoc.gov

Nationwide Voice: 800.669.4000; TTY: 800.669.6820

Philadelphia District Office Voice: 215.440.2601; TTY: 215.440.2610

Pittsburgh Area Office Voice: 412.395.5902; TTY: 412.395.5904

Time Frame: 300 days from date of alleged discrimination

- (6) Transfer to Legal Office.** The procedures outlined in this directive apply only to internal investigations. Whenever a complaint or action is filed in any court or outside agency, the investigation must be transferred to the agency Legal Counsel who will direct all further investigation and/or handling of the matter.
- (7)** All employees are responsible for ensuring the prohibition of workplace discrimination, and therefore, are encouraged to report such acts.

b. Investigation.

- (1)** The agency Equal Opportunity Officer shall promptly conduct an investigation of complaints alleging violation(s) of commonwealth discrimination policy.
- (2) Acknowledgement of Complaint.** Upon receipt of a complaint, the agency Equal Opportunity Officer shall issue to complainant a written acknowledgement, which states the date on which the complaint was received and that an investigation will be initiated promptly.
- (3) Informal Resolution.** Parties may resolve complaints on an informal basis. Upon receipt of a complaint, prior to implementation of (or at any time during) a formal investigation, agency Equal Opportunity Officers may explore opportunities for resolution. If a resolution is reached, the agency Equal Opportunity Officer should request that the complainant execute Form STD-486W, Equal Employment Opportunity Discrimination Complaint Withdrawal Form; refer to Enclosure 2 of this directive, requesting closure of the complaint based on his/her satisfaction with said resolution.
- (4) Mediation.** The agency Equal Opportunity Officer must inform the complainant of the availability of the commonwealth's mediation program. Participation in this program is optional and does not preclude the right to an investigation or other avenues of recourse. For mediation to occur, both parties must agree to participate. If the parties elect to pursue mediation, the agency Equal Opportunity Officer must notify the BEEO Director.
- (5) Investigative File.**
 - (a)** The agency Equal Opportunity Officer shall create an investigative file to be utilized as a work file during the investigation. This file must be kept separate from the employee's Official Personnel Folder (OPF).
 - (b)** The investigative file must include:
 - 1 Complaint;
 - 2 Investigative log/chronology of events;
 - 3 Acknowledgement of complaint;

- 4 Investigative plan;
- 5 Correspondence;
- 6 Witness and interview statements; and
- 7 All documents/documentary evidence related to the investigation.

(6) Investigative Plan.

- (a)** After receiving a complaint, the agency Equal Opportunity Officer must prepare an investigative plan. The investigative plan will serve as a road map for the investigation. The plan should be tailored to the complaint allegations and will outline all of the major steps of the investigation.
- (b)** The plan must contain the following items:
 - 1 A complete list of the complainant's allegations;
 - 2 A preliminary list of persons to be interviewed, including the complainant, the alleged offender(s), and all witnesses;
 - 3 A preliminary list of questions for all persons identified in 7. b. (6) (b) 2, above; and
 - 4 A preliminary list of documents to be reviewed.
- (c)** The plan may be modified as the investigation progresses.

(7) Interviews.

- (a)** The agency Equal Opportunity Officer must interview all parties and witnesses who could reasonably be expected to have relevant information.
- (b)** The purpose of conducting an interview is to impartially gather information and establish facts which will support/prove or disprove allegations.
- (c) General Procedure for Every Interview.**
 - 1 Explain the purpose of the interview (i.e., impartially gather the facts).
 - 2 Review the relevant discrimination/sexual harassment policy with the witness.
 - 3 Inform each witness of the prohibition against retaliation in 5. d. of this directive and that he/she should immediately report any alleged acts of retaliation to the agency Equal Opportunity Officer.

- 4 Only disclose allegations and facts necessary to obtain relevant information from the witnesses.
- 5 Use effective questioning to gather all facts relevant to the allegations, e.g., who, what, where, when, why, and how.
- 6 Listen carefully to the witness and ask follow-up questions as necessary.
- 7 Take detailed notes during the interview. Notes should include:
 - a Name and contact information for the witness.
 - b Date, time, and location of the interview.
 - c Questions and responses.
- 8 Interview notes must be free of opinion, bias and subjectivity.
- 9 Ask whether there are other persons who have relevant information (e.g. were there any witnesses to the incident, who were they and what did they hear or see).
- 10 Advise the witness that he/she should refrain from disclosing information about the complaint or the investigation.
- 11 Following the interview, review the notes and contact the witness for clarification as necessary.
- 12 Prepare a statement based on the interview and ask the witness to review, sign and date the statement.
- 13 In accordance with Management Directive 590.1, Labor Relations, when a union covered employee reasonably concludes that disciplinary action may result, the employee may request and is entitled to union representation.

(d) Complainant Interview.

- 1 Ask whether the complainant filed any other complaints, and if so, when and in what venue.
- 2 Ask whether the complainant is aware of other similar acts by the alleged offender.
- 3 Ask whether the complainant and the complainant's job have been affected by the alleged discrimination.
- 4 If the complainant alleges harassment, ask if any of the actions of the alleged harasser were welcome or unwelcome and whether or how this was conveyed to the alleged harasser. This may require exploration of the nature and history of the relationship of the complainant and the alleged harasser.

- 5 Ask the complainant how he/she would like to see the situation resolved.
- 6 Ask if the complainant has any other relevant information.
- 7 Avoid any promise of confidentiality, giving assurance that only those who have a legitimate need to know will be notified of the complaint. Additionally, the complainant should be advised that it will be necessary to discuss the complaint with the alleged offender.
- 8 Advise the complainant he/she will be notified of the outcome when the investigation is completed.
- 9 If the complainant is uncooperative, attempt to gain cooperation. If the complainant refuses to cooperate, make note of the refusal and consult with the Responsible Agency Official, agency Legal Counsel, and/or BEEC regarding the appropriate measures to be taken.

(e) Alleged Offender(s) Interview.

- 1 Explain that he/she has been identified as engaging in actions which may violate the commonwealth's policies prohibiting discrimination.
- 2 Ensure that the alleged offender understands the prohibition against retaliation as set forth in 5. d. of this directive.
- 3 Explain that the purpose of the interview is to impartially gather facts about the complaint, that no determination has been made and that you do not know the outcome of the investigation. Advise the alleged offender that he/she will be notified of the outcome when the investigation is completed.
- 4 If the alleged offender claims the allegations are false, ask why the complainant might lie, misinterpret his/her actions or provide inconsistent information.
- 5 Ask the alleged offender if there are any other persons who may be able to corroborate or confirm his/her statements, who may have witnessed any of the alleged conduct, or who may have other relevant information.
- 6 If the complainant alleges harassment occurred and the alleged offender states that all interactions were consensual; ask him/her for facts that support the defense.
- 7 If the alleged offender acknowledges any inappropriate conduct, obtain details of what happened, including; when, where, why, and the identity of any witnesses.

- 8 Ask whether the alleged offender has any other relevant information.
- 9 The alleged offender(s) must be notified of any additional allegations that emerge during the investigation and given an opportunity to respond.

(8) Document Review.

- (a)** The agency Equal Opportunity Officer should obtain documentary evidence or witness statements which may corroborate or refute the complainant's allegations, and/or alleged offender's defense.
- (b)** All documentation must be stored in the investigative file. Documentation should not be placed in the employee's OPF.
- (c)** The agency Equal Opportunity Officer should not make notations on any original documents or witness statements obtained during the investigation but may annotate and retain copies as work product.

(9) Case File.

- (a)** Upon completion of the investigation, the agency Equal Opportunity Officer shall assemble a case file, which will include the following sections:
 - 1 Table of Contents.
 - 2 Complaint.
 - 3 Investigative Plan.
 - 4 Investigative Report.
 - a A list of the complainant's allegations;
 - b The alleged offender's response to each allegation;
 - c A copy of commonwealth policy(s) applicable to the complaint;
 - d Findings of fact; and
 - e Investigative log/chronology of events.
 - 5 Correspondence. Includes all investigation-related correspondence to and from the agency Equal Opportunity Officer.
 - 6 Witness and Interview Statements. Includes a list of persons interviewed, witness statements, any other written statements submitted, and the agency Equal Opportunity Officer's written documentation of interviews.

Z Documents. Includes copies of all documents obtained during the investigation.

- (b) Upon completion of the investigation, the agency Equal Opportunity Officer must submit a copy of the case file to the Responsible Agency Official. The Responsible Agency Official shall meet with the agency Equal Opportunity Officer and/or the agency's Legal Counsel to review and discuss the investigation.

(10) Notification to Parties.

- (a) The Responsible Agency Official shall notify the complainant of the outcome of the investigation. The notification shall advise the complainant of his/her rights to and procedure for filing a request for internal reconsideration and or appeal to BEEO as appropriate as set forth in 7. b. (11) and (12) of this directive.
- (b) The Responsible Agency Official shall notify the alleged offender of the outcome of the investigation.
- (c) Notifications issued in (a) and (b) above shall be documented/recorded.

(11) Request for Reconsideration.

- (a) Complainants who are not satisfied with the outcome of the investigation may file a request for reconsideration with the individual designated by the agency to carry out such function.
- (b) The request for reconsideration must be in writing and filed within 20 calendar days of notification of the outcome.
- (c) The Designated Agency Official shall review the request and other appropriate information as expeditiously as possible and provide written notification to complainants of the determination, and if appropriate, the right to and procedure for filing an appeal to BEEO within the timeframe set forth in 7. b. (12) (b).

(12) Appeals.

- (a) Complainants who are not satisfied with an agency's decision concerning a request for reconsideration may file an appeal with BEEO.
- (b) The appeal must be in writing and filed within 20 calendar days from the date of the written notification of the reconsideration determination, preferably on the standard Form STD-486A, Equal Employment Opportunity Discrimination Complaint Appeal Form; refer to Enclosure 3 of this directive.

- (13) Withdrawal of Complaint.** The complainant may withdraw his/her complaint at any time. Requests for withdrawal of complaints must be submitted in writing to the agency Equal Opportunity Officer, on the standard Form STD-486W, Equal Employment Opportunity Discrimination Complaint Withdrawal Form; refer to Enclosure 2. The agency Equal Opportunity Officer will confer with the Responsible Agency Official and depending upon the allegations and circumstances, the agency may continue its investigation.

This directive replaces, in its entirety, *Management Directive 410.10*, dated February 21, 2008.

Enclosure 1 - Form STD-486C, Equal Employment Opportunity Discrimination Complaint Form

Enclosure 2 - Form STD-486W, Equal Employment Opportunity Discrimination Complaint Withdrawal Form

Enclosure 3 - Form STD-486A, Equal Employment Opportunity Discrimination Complaint Appeal Form

EQUAL EMPLOYMENT OPPORTUNITY DISCRIMINATION COMPLAINT FORM

COMMONWEALTH OF PENNSYLVANIA
STD-486C REV. 11/12

CASE/DOCKET NUMBER	DATE OF COMPLAINT
COMPLAINANT'S NAME	EMPLOYEE NUMBER
COMPLAINANT ADDRESS	AGENCY NAME AND ADDRESS
COMPLAINANT CONTACT NUMBERS	AGENCY CONTACT NUMBERS
CURRENT COMMONWEALTH EMPLOYEE <input type="checkbox"/> YES <input type="checkbox"/> NO	DATES OF ALLEGED DISCRIMINATION
BASIS OF THE ALLEGED DISCRIMINATION: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> RACE </div> <div style="width: 50%;"> <input type="checkbox"/> AGE </div> <div style="width: 50%;"> <input type="checkbox"/> SEX </div> <div style="width: 50%;"> <input type="checkbox"/> DISABILITY </div> <div style="width: 50%;"> <input type="checkbox"/> NATIONAL ORIGIN </div> <div style="width: 50%;"> <input type="checkbox"/> RETALIATION </div> <div style="width: 50%;"> <input type="checkbox"/> SEXUAL ORIENTATION </div> <div style="width: 50%;"> <input type="checkbox"/> GENDER IDENTITY OR EXPRESSION </div> <div style="width: 50%;"> <input type="checkbox"/> ANCESTRY </div> <div style="width: 50%;"> <input type="checkbox"/> OTHER (SPECIFY) _____ </div> <div style="width: 50%;"> <input type="checkbox"/> RELIGION </div> <div style="width: 50%;"> <input type="checkbox"/> _____ </div> </div>	ALLEGED DISCRIMINATORY ACT: <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> INTERVIEW </div> <div style="width: 50%;"> <input type="checkbox"/> DISCIPLINE </div> <div style="width: 50%;"> <input type="checkbox"/> HIRING/SELECTION </div> <div style="width: 50%;"> <input type="checkbox"/> DISCHARGE </div> <div style="width: 50%;"> <input type="checkbox"/> UNEQUAL PAY </div> <div style="width: 50%;"> <input type="checkbox"/> HARASSMENT </div> <div style="width: 50%;"> <input type="checkbox"/> PROMOTION </div> <div style="width: 50%;"> <input type="checkbox"/> TRAINING </div> <div style="width: 50%;"> <input type="checkbox"/> LAYOFF </div> <div style="width: 50%;"> <input type="checkbox"/> OTHER (SPECIFY) _____ </div> <div style="width: 50%;"> <input type="checkbox"/> TRANSFER </div> <div style="width: 50%;"> <input type="checkbox"/> _____ </div> </div>
PLEASE IDENTIFY THE ALLEGED OFFENDER(S). PLEASE PROVIDE NAME, TITLE, ADDRESS AND TELEPHONE NUMBER FOR ALLEGED OFFENDER(S).	

PLEASE PROVIDE DETAILS OF THE ALLEGED DISCRIMINATORY ACT(S). (USE ADDITIONAL PAPER IF NEEDED)

PLEASE PROVIDE ANY DOCUMENTS WHICH SUPPORT THE ALLEGATIONS. PLEASE DESCRIBE ATTACHMENTS. (USE ADDITIONAL PAPER IF NEEDED).

PLEASE IDENTIFY ANY OTHER INTERNAL OR EXTERNAL COMPLAINTS, GRIEVANCES, LAWSUITS, ETC. INITIATED IN RELATION TO THIS MATTER.

COMPLAINANT'S SIGNATURE

DATE

COMMONWEALTH OF PENNSYLVANIA
STD-486W REV. 11/12

Please note that your request for withdrawal of your complaint will be considered. However, depending upon the allegations and circumstances, the agency may continue with its investigation.

I HAVE NOT BEEN FORCED TO REQUEST THIS WITHDRAWAL.

Enclosure 2 to Management Directive 410.10 Amended

**EQUAL EMPLOYMENT OPPORTUNITY
DISCRIMINATION COMPLAINT APPEAL FORM**

COMMONWEALTH OF PENNSYLVANIA
STD-486A REV. 02/14

CASE/DOCKET NUMBER	DATE OF COMPLAINT
COMPLAINANT'S NAME	EMPLOYEE NUMBER
COMPLAINANT ADDRESS	AGENCY NAME AND ADDRESS
COMPLAINANT CONTACT NUMBERS	AGENCY CONTACT NUMBERS
CURRENT COMMONWEALTH EMPLOYEE <input type="checkbox"/> YES <input type="checkbox"/> NO	DATE OF NOTIFICATION LETTER*
PLEASE INDICATE WHY AN APPEAL IS REQUESTED IN THIS CASE (USE ADDITIONAL PAPER IF NEEDED)	

*THIS APPEAL MUST BE SUBMITTED WITHIN 20 CALENDAR DAYS OF RECEIPT OF LETTER ADVISING OF THE RECONSIDERATION DETERMINATION.

**OFFICE OF ADMINISTRATION
OFFICE FOR HUMAN RESOURCES MANAGEMENT
EQUAL EMPLOYMENT OPPORTUNITY DIVISION
FINANCE BUILDING, ROOM 222
613 NORTH STREET
HARRISBURG, PA 17120
PHONE: 717.783.1130 FAX 717.772.3302**

COMPLAINANT'S SIGNATURE	DATE
-------------------------	------

Manifest for Grant Application # GRANT13578770

Grant Application XML file (total 1):

1. GrantApplication.xml. (size 31524 bytes)

Forms Included in Zip File(total 6):

1. Form ProjectNarrativeAttachments_1_2-V1.2.pdf (size 16042 bytes)

2. Form SF424_3_0-V3.0.pdf (size 24303 bytes)

3. Form SF424A-V1.0.pdf (size 23514 bytes)

4. Form EPA4700_4_3_0-V3.0.pdf (size 22710 bytes)

5. Form OtherNarrativeAttachments_1_2-V1.2.pdf (size 15905 bytes)

6. Form EPA_KeyContacts_2_0-V2.0.pdf (size 37457 bytes)

Attachments Included in Zip File (total 13):

1. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1236-Attachment (EPA-CEP-01).pdf application/pdf (size 14208 bytes)

2. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1237-Mgt Dir 410.10 -- Investigating Internal Complaints (05DEC12).pdf application/pdf (size 200451 bytes)

3. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1238-Southern DELCO Himes_UPENN LOS.pdf application/pdf (size 295996 bytes)

4. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1239-Southern DELCO Horwarth CEET LOS.pdf application/pdf (size 111418 bytes)

5. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1240-Southern DELCO Wood_Drexel LOS.pdf application/pdf (size 504034 bytes)

6. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1234-Quality Assurance Statement.docx application/vnd.openxmlformats-officedocument.wordprocessingml.document (size 30079 bytes)

7. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1241-Southern DELCO Bramer-Weidner LOS.pdf application/pdf (size 53642 bytes)

8. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1242-Southern DELCO CEP LOS.pdf application/pdf (size 305912 bytes)

9. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1243-Southern DELCO DeCarlo_JHU LOS.pdf application/pdf (size 257524 bytes)

10. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1244-Southern DELCO Deleware Co LOS.pdf application/pdf (size 269298 bytes)

11. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1245-Southern DELCO DVRPC LOS.pdf application/pdf (size 106404 bytes)

12. ProjectNarrativeAttachments_1_2 ProjectNarrativeAttachments_1_2-Attachments-1246-DELCO EnhancedAirQualityMonitoringGrantApplication_Final.docx application/vnd.openxmlformats-officedocument.wordprocessingml.document (size 758192 bytes)

13. OtherNarrativeAttachments_1_2 OtherNarrativeAttachments_1_2-Attachments-1235-2021 DEP Nondiscrimination Policy Statement (13JUL21).pdf application/pdf (size 207732 bytes)



Ezra C. Wood, Ph. D.
Associate Professor of Chemistry
3141 Chestnut St
Disque Hall 303
Philadelphia, PA 19104
215.895.1681
Ezra.Wood@drexel.edu

March 8, 2022

Dear Mr. Lazor:

I am writing to express my interest in the data generated by your research project entitled: **Enhanced PM monitoring in the Environmental Justice communities of the Delaware County Waterfront** in response to Enhanced Air Monitoring for Communities RFA# EPA-OAR-OAQPS-22-01.

I am an associate Professor of Chemistry at Drexel University in Philadelphia. My research interests include investigating the underlying photochemistry behind tropospheric ozone (smog) formation and quantifying pollutant emissions. As most of my current research has focused on measurements at a single location, I often question how representative my findings are given the known spatial heterogeneity in pollutant emission sources and concentrations. These concerns can be partially addressed by information provided by networks of monitoring sites comprising low cost air quality sensors. As such I am very interested in the potential windfall of information that this project could provide.

The openly available datasets generated from the approximately 50 low cost sensors acquired and installed as planned in this project would be available for use in both research projects as well as a teaching resource for students interested in air quality issues. We are hopeful that this project is selected for funding and becomes a resource for both the residents served by the enhanced monitoring investment and the research and teaching communities in the region.

Sincerely,

A handwritten signature in black ink that reads "Ezra Wood". The signature is written in a cursive, flowing style.

Ezra Wood
Associate Professor
Department of Chemistry
Drexel University

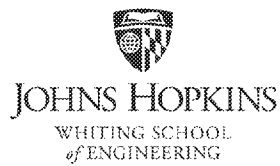
July 13, 2021

I take this opportunity to state my commitment to the principles of Equal Employment Opportunity (EEO) and to communicate the Department's commitment to those principles through the Nondiscrimination Policy Statement.

As an equal opportunity employer, this Department adheres to all Federal and State laws, regulations, policies, and directives relating to race, color, religious creed, ancestry, union membership, age, gender, sexual orientation, gender identity or expression, national origin, AIDS or HIV status, or disability, pursuant to the Commonwealth of Pennsylvania Executive Order 2016-04 (1.a.). This includes, but is not limited to, the Department's responsibilities as defined in the Civil Rights Act of 1964, as amended, Title VII, which prohibits discrimination in employment based on race, color, religion, sex, or national origin; the Civil Rights Act of 1964, as amended; Title VI, which prohibits a federal grant recipient from discrimination in carrying out its grant responsibilities to program beneficiaries based on race, color, or national origin; the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990, which prohibits discrimination in employment and program participation on the basis of disability or presumption of disability; the Age Discrimination in Employment Act of 1967, as amended, which prohibits discrimination on the basis of age, and the Commonwealth of Pennsylvania Executive Order 2016-04, which prohibits discrimination against any employee or applicant for employment because of race, color, religious creed, ancestry, union membership, age, sex, sexual orientation, gender identity or expression, national origin, AIDS or HIV status, or disability; and Executive Order 2002-4, which prohibits sexual harassment in the Commonwealth. Periodic audits to ensure adherence to these laws, regulations, policies, and directives may be conducted by the Department. Retaliation against persons who request disability accommodations or who file charges, testify, assist, or participate in any way in any proceeding, investigation, audit or hearing conducted by the Equal Employment Opportunity Officer is expressly prohibited. Individuals found guilty of retaliation will be subject to sanctions prescribed in Title VII of the Civil Rights Act.

The Department of Environmental Protection has developed and implemented an equal employment opportunity program to ensure fair employment practices, to take positive steps to ensure fair and equal employment at every level of government, and to achieve a condition of equal employment opportunity. All of the Department's managers, supervisors, and employees share the responsibility of implementing our EEO policy. We will base our management decisions affecting program operations, provision of services, and employment practices on equal employment opportunity principles. It will be the responsibility of all management personnel to participate in planning, implementation, and monitoring in instances where EEO is to be applied.

The Department will maintain a workplace environment free from discrimination, reprisal and harassment — racial, sexual or otherwise — of any employee. Sexual harassment is any unwelcome sexual advance, request for sexual favors, and any other written, verbal, physical, visual, or other conduct of a sexual nature when: submission to such conduct is made either explicitly or implicitly a term or condition of employment; submission to or rejection of such conduct is used as the basis for employment decisions affecting the individual; or when such conduct has the effect of unreasonably interfering with the individual's work performance or creating an offensive working environment. Sexual harassment will not be tolerated. Prompt action will be taken to treat sexual harassment as other potential disciplinary actions are handled.



March 8, 2022

Mr. Nick Lazor
Air Quality Monitoring Division Chief
Pennsylvania Department of Environmental Protection
Rachel Carson State Office Building
400 Market Street, Harrisburg, PA 17105

Dear Mr. Lazor:

I am writing to express my interest and intent to collaborate in your research project entitled: **Enhanced PM monitoring in the Environmental Justice communities of the Delaware County Waterfront** in response to Enhanced Air Monitoring for Communities RFA# EPA-OAR-OAQPS-22-01.

My research group is excited to participate in the aforementioned project and has extensive expertise in measurement and source apportionment of air pollutants in urban areas. In the context of this project, and our contributions, my research group has been working with Quant-AQ sensors for several other measurement projects, and have been impressed with the quality of the measurements, and ease measurement and data collection – all automated and connected via LTE network. In the context of our other projects we have been operating and processing data from these sensors regularly for over 1 year now and have started building data summation and visualization tools to summarize the data generated for use by community groups and other non-technical groups. We are excited to collaborate with the PA DEP on this work to improve the characterization of pollutants in southern Delaware CO, PA.

Sincerely,

Peter DeCarlo, Ph.D.
Associate Professor
Department of Environmental Health and Engineering
Johns Hopkins University

Department of Environmental Health and Engineering

Ames Hall, Room 301 3400 N.Charles Street Baltimore, MD 21218 410-516-7092 Fax 410-516-8996 engineering.jhu.edu/ehe

ED_013931A_00000075-00001

We will ensure that all personnel management activities including retirement, recruitment, selection, placement, promotion, training and employee counseling are administered within the parameters of the EEO Plan. Management performance relating to the success of this Department's EEO Plan will be evaluated in the same way as other agency objectives are evaluated.

We will ensure that all matters affecting pay, benefits, transfers, separations, furloughs, returns from furloughs, training, social and recreational programs are administered consistent with our EEO policy. Measures will be taken to ensure that minorities, persons with disabilities, age protected individuals, and females are represented on advisory boards and committees.

We will make every effort to expand employment and promotion opportunities for applicants and employees with disabilities. Reasonable accommodations will be made for qualified applicants and employees in compliance with the law. In offering employment and promotions to persons with disabilities, no salary reduction will result because of disability income or other benefits.

Employees may file a complaint of discrimination through the Equal Employment Opportunity Complaint Resource Account, RA-OAEEOCOMPLAINT@pa.gov or by calling the OA, Bureau of Equal Employment Opportunity Investigations at (717) 783-1130. Complaints will be investigated in accordance with Management Directive 410.10 Amended, dated December 5, 2012, Guidelines for Investigating and Resolving Internal Discrimination Complaints. All investigations will be designed to protect the privacy and rights of all parties concerned.

If a Complainant is not satisfied with the outcome of the investigation, the Complainant may file an appeal within 20 days. Further information and contact information regarding filing a request for appeal will be provided in the closeout letter to the Complainant after each step of the investigative process is completed. Additionally, employees, may, at their option, also directly contact external agencies, including the Equal Employment Opportunity Commission, Pennsylvania Human Relations Commission, or State Civil Service Commission with any complaints.

OTHER AVENUES OF RECOURSE

Pennsylvania Human Relations Commission

www.phrc.pa.gov

Harrisburg Regional Office
333 Market Street, 8th Floor, Harrisburg, PA 17101-2210
717.787.9780; TTY: 717.787.7279

Philadelphia Regional Office
110 North 8th Street, Suite 501, Philadelphia, PA 19107
215.560.2496; TTY: 215.560.3599

Pittsburgh Regional Office
301 Fifth Avenue, Suite 390, Piatt Place, Pittsburgh, PA 15222
412.565.5395; TTY: 412.565.5711
*Filing Time Frame: 180 days from date of alleged discrimination

U.S. Equal Employment Opportunity Commission

www.eeoc.gov
Nationwide Voice: 800.669.4000; TTY: 800.669.6820

Philadelphia District Office
801 Market Street, Suite 1300
Philadelphia, PA 19107-3127
1.800.669.4000; TTY: 1.800.669.6820

Pittsburgh Area Office – William S. Moorhead Federal Building
1000 Liberty Avenue, Suite 1112
Pittsburgh, PA 15222
1.800.669.4000; TTY: 412.395.5904
*Filing Time Frame: 300 days from date of alleged discrimination

State Civil Service Commission

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Strawberry Square Complex, Second Floor
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Harrisburg, PA 17108-0569
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I solicit your commitment and cooperation in implementing this policy as you join me in accomplishing the goals and objectives of the Department's EEO Program.



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Patrick McDonnell
Secretary
Department of Environmental Protection

Project Title: Enhanced PM monitoring in the Environmental Justice communities of the Delaware County Waterfront

Applicant Information: Pennsylvania Department of Environmental Protection

Rachel Carson State Office Building, 400 Market Street, Harrisburg, PA 17105

Nick Lazor, Air Quality Monitoring Division Chief, 717.783.9268, [[HYPERLINK "about:blank" \]](#)

DUNS Number/ UEI: 135668887/ EKG3AF5KYJM3

No set-aside

Brief Description of the Applicant Organization: The Department of Environmental Protection's (DEP) mission is to protect Pennsylvania's air, land, and water from pollution and to provide for the health and safety of its citizens through a cleaner environment. We work as partners with individuals, organizations, governments, and businesses to prevent pollution and restore our natural resources. The Bureau of Air Quality specifically focuses on evaluating air pollution reduction strategies, assisting in future program planning, and monitoring air quality statewide.

Project Partners: CEET, University of Pennsylvania, Dr. Marilyn Howarth; Johns Hopkins University, Dr. Peter DeCarlo; Delaware County, Anne Stauffer; Delaware Valley Regional Planning Commission, Sean Greene; Chester Environmental Partnership, Horace Strand; Foundation for Delaware County, Joanne Craig

Project Location

The project study area is southern Delaware County, PA. The project study area spans roughly 7 miles from west to east, from Delaware County's border with the State of Delaware to the eastern border of the City of Chester. The southern border is the Delaware River, and it covers approximately 1.75 miles inland to the north. There are 6 municipalities fully within the study area, including Chester City, Chester Township, Upland Borough, Trainer Borough, Marcus Hook Borough, and Lower Chichester Township. The southern portion of Upper Chichester Township is also included. The zip codes for the project area are 19013, 19061, 19015 and 19014.

Air Pollutant Scope

Particulate Matter (PM₁, PM_{2.5}, PM₁₀) is the primary focus of the project. It will also include limited Ozone, CO, and NO₂ monitoring.

Budget Summary

EPA Funding Requested	Total Project Cost
\$377,443	\$377,443

Project Period: Fall 2022-Fall 2025

Project Description: Using particulate matter (PM) as a surrogate for a larger pollutant set, this project aims to gather critical data to help federal, state, and local partners identify sources of air pollution, clarify their relative contributions and develop mitigation strategies to improve health outcomes for the people who live and work in the Environmental Justice communities along the waterfront in Delaware

County, Pennsylvania. Utilizing Geographic Information Systems (GIS) to focus on transportation corridors, vulnerable populations, and local neighborhoods, up to 50 Modulair-PM monitors will be installed within the study area, with several monitors installed outside the study area to provide background data. Modulair sensors measuring CO, NO₂, and O₃ in addition to PM will be installed at a rate of 10% of the total sensor population to expand the parameter set as well as provide localized meteorological information. Coordination with community partners and communication of the data and findings with researchers, legislators, and the public will be a key focus and will provide a basis for additional future research in the area on impacts of PM.

II – Workplan

Project Summary and Approach

Overall Project

This project is designed to address an existing data gap on the sources and receptors of PM pollution in the southern Delaware County area and provide a data set to begin to address a multitude of questions and concerns being expressed by the community. The presence of one of the largest municipal waste incinerators in the country, the number of trucking routes through these communities, as well as other industries have led many to question and make negative assumptions about the air quality in the neighborhoods. Activist and community groups have formed in response to these concerns to protect the health of their communities. Unfortunately, there just is not enough data on the extent of the air pollution to appropriately prioritize action. To design and implement mitigation strategies, better and more data is needed.

The goal of this enhanced air monitoring project is to collect and openly share air pollution data for community groups and other interested entities to use. The data will have high spatial and temporal resolution, which will make it particularly relevant and useful for community and other users of the data. This data set will be used as a tool to assist in answering community concerns, driving future planning efforts as well as providing a base for future research efforts to expand upon. Utilizing low cost continuous PM sensors as a surrogate measurement for a larger set of pollutants will provide a cost-effective method to collect the desired data set. Particulate matter is known to have adherent metals and other health impactful chemicals associated, so by measuring PM, information regarding associated chemicals can be inferred. The project hopes to begin to develop answers to critical questions such as how is the air in residential neighborhoods affected by the truck routes and industries? Can we differentiate between the pollution coming from the industries and the truck routes? Are there times of the day or night when emissions are elevated? Which neighborhoods are most affected? Is the air quality north of I-95 different than that south of I-95?

Utilizing GIS to focus on transportation corridors, vulnerable populations, and local neighborhoods, up to 50 Modulair-PM monitors will be installed within the study area, with several monitors installed outside the study area to provide background data. Supplementing the PM only monitors will be 5-10 multi-pollutant Modulair sensors that also measure wind speed, wind direction, CO, NO₂, and O₃ in addition to PM. These sensors will be spread strategically throughout the sampling domain and will provide some indication of the relationship of PM to other criteria air pollutants. The Modulair- PM and multi-pollutant Modulair sensors were chosen for this project because a recent evaluation by the Air Quality Sensor Performance Evaluation Center (AQ-SPEC) indicated these sensors correlate well against FRM and FEM PM sensors, allowing the deployment of a larger number of low-cost sensors with the

ability to correlate the data to existing FRM/FEM sensors already operating in the study area. Modulair and Modulair PM sensors are produced by Quant-AQ, a developer of low-cost air pollution sensors that are designed with accuracy of the measurement in mind. The underlying physics and chemistry of the PM monitoring technology used in the Modulair-PM instruments is described in detail (Hagan and Kroll, 2020), and electrochemical sensors for measuring gas-phase species and best practices for calibration of those sensors is described in (Hagan et al. 2018) and (Cross et al. 2017). Peer reviewed literature supports the measurement accuracy asserted by Quant-AQ. While low-cost sensors are inherently less accurate than FRM and FEM measurements, they are the only cost-effective technique to increase the spatial density of measurements that will provide answers to the communities' questions and concerns.

Additionally, Johns Hopkins University is in the midst of a study in the same general area and is using this equipment as the primary sampling methodology. By using similar equipment as the Johns Hopkins group, we will improve data comparability as well as shortening PA DEP's learning curve on operations of these sensors. Building on the focused GIS products, the County will solicit input on monitor locations from community stakeholders including local institutions, municipal Environmental Advisory Councils (EACs), the Chester Environmental Partnership, school districts, municipal governments, community groups, and more.

PA DEP currently operates 71 ambient air monitoring stations across the Commonwealth, measuring the levels of the principal and toxic air pollutants at select locations. The goals of Pennsylvania's ambient air monitoring program are to evaluate compliance with federal and state air quality standards, provide real-time monitoring of air pollution episodes, develop data for trend analysis, develop and implement air quality regulations, and provide information to the public on daily air quality. PA DEP operates two Air Monitoring Stations within the study area. One, located in Chester City, monitors ozone, PM_{2.5}, lead, metals, NO₂, and VOCs. The other site, located in Marcus Hook Borough, monitors PM_{2.5} and VOCs

Supplementing the regulatory network with 50 additional low-cost sensors requires a strategic plan to manage and share the increased volume of data produced. For monitors on public property, the default option will be to make data publicly available in real-time. For monitors located on private property, the option of making data publicly available will be a discussion with the entity hosting the monitor. Built in tools for real-time data sharing are provided by Quant-AQ. Additionally, for sharing data more directly with community groups, an air quality data tool will be developed by collaborators at Johns Hopkins University and implemented to summarize and display data for community communication and use. The Johns Hopkins team led by Dr. DeCarlo has extensive expertise in air quality measurement in cities all over the world and will extend the collaborative relationship between PA DEP and Dr. DeCarlo's research group at Johns Hopkins University. The study area is located on Delaware County's waterfront along the Delaware River. It is a corridor of industrial activity that is connected to the region by several transportation corridors. Within one mile of the river there are four major transportation routes: Interstate Route 95, and State Routes 13 and 291 and the Industrial Highway. These routes cut through neighborhoods of underserved communities and bring approximately 6300 heavy duty trucks daily through these communities potentially exposing the population in the study area to air pollutants from emissions from both the industries and the highways.

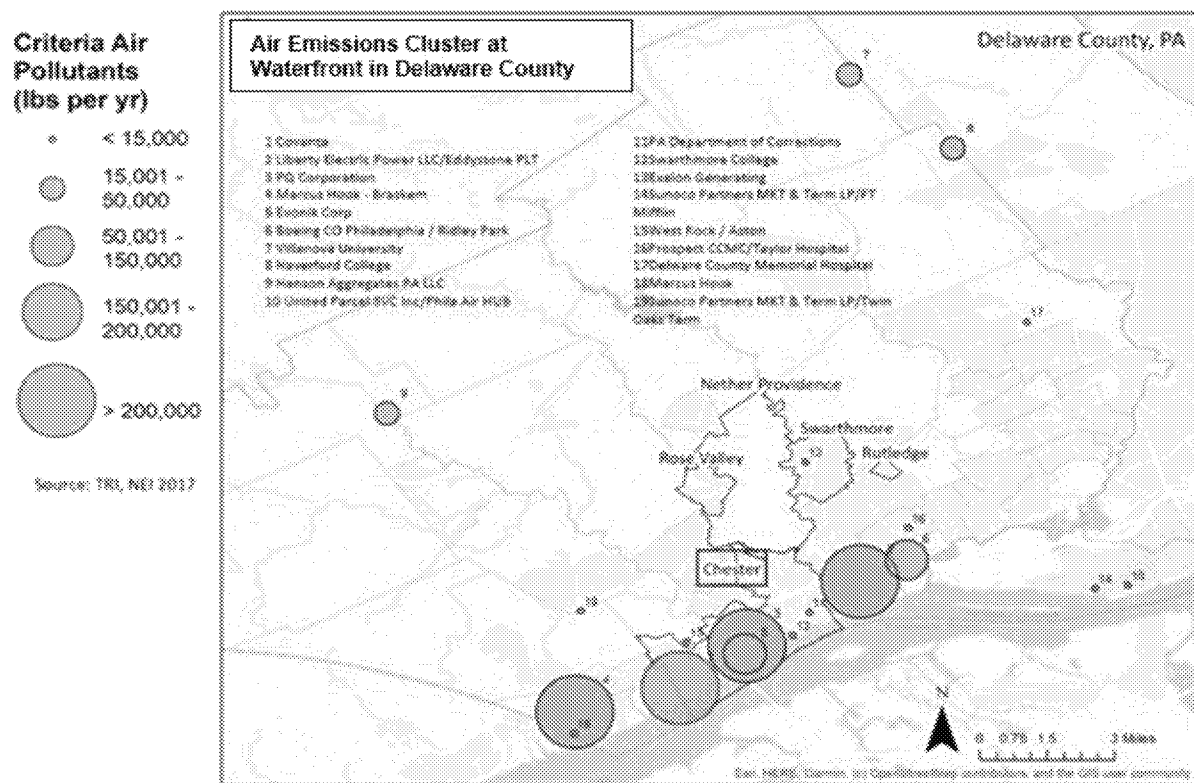
Project Significance

Air pollution has been a concern in the study area for decades with vehicle (Interstate-95) and commercial rail traffic travel impacting the community. The study area is also home to many industries,

including a very large municipal trash incinerator, a regional sewage treatment facility, a large refinery and associated petrochemical industrial facilities. Additionally, this area lies in the flight path of the Philadelphia International Airport (less than 7 miles away) which averages 500 flights daily. Delaware County is in “Non-attainment” status for ozone and in “maintenance” for PM_{2.5}. Community groups sued the PA DEP in the 1990s over the excessive number of permits granted within their small environmental justice city. The Chester Environmental Partnership, a key partner in this grant, was formed in 2005 to engage residents, industry, regulators, and academics to address the community concerns about air pollution and health effects. Complaints expressed by community members include foul odors, residue on vehicles and porches, and truck traffic.

Health effects studies of this area are limited. In 2010, the last time the Pennsylvania Department of Health made city-specific data on asthma available, Chester had an asthma prevalence of 38.5% in children. Childhood asthma hospitalization rates are more than three times higher than the rest of Pennsylvania. The community believes that there is an increased rate of asthma, stroke, and cancer. The fetal/infant mortality rate among non-Hispanic Black women is 3 times higher than that of non-Hispanic White women, largely due to low birth weights. These health disparities are all negatively impacted by air pollution. As shown on Figure 1, most emitters are clustered near the waterfront.

Figure [SEQ Figure * ARABIC]- Air Emission Sources



Some of the sources of air emissions in the study area include COVANTA Delaware Valley Resource Recovery Center (trash-to-steam facility); Delaware County Regional Water Authority (DELCORA) wastewater treatment plant, Exelon Generating Station; Evonik Corporation; Dee Paper; PQ

Corporation; Kimberly Clark of PA LLC; Community Light and Sound, Inc.; PA Department of Corrections SCI Chester; Monroe Energy LLC; Braskem America Inc.; and Sunoco LLC.

The community has been concerned about the air quality for decades, but it has struggled to have a voice in addressing these concerns. One reason has been the lack of data needed to develop mitigation strategies. By addressing the data gap, this project will not only make mitigation strategies feasible, but it will also give the community strong communication tools to be heard. The data will be made available for researchers, legislators, and the public, and it will be made accessible for all audiences in the forms of visualization, factsheets, presentations, and outreach.

Community Involvement

Community Partnerships

The PA DEP will be working with a variety of partners to accomplish the aims of the PM monitoring project. Local and regional partners include Delaware County, the City of Chester, Marcus Hook Borough and its Environmental Advisory Council, the Chester Environmental Partnership, the Center of Excellence in Environmental Toxicology, the Foundation for Delaware County, and the Delaware Valley Regional Planning Commission.

Delaware County will be a central partner. It will coordinate local governments, provide GIS (Geographic Information Systems) analysis to drive siting location by utilizing key parameters, assist in locating properties for monitor installation within proximity to industries, residential populations, publicly-owned properties, electricity availability and meteorological patterns. The County will coordinate partnerships with local municipalities' Departments of Public Works and local institutions for installation. In addition to identifying potential air monitor locations using GIS, the County will also support the DEP by conducting extensive community engagement, a key component of this project. Based on the GIS outputs, the County will solicit input on monitor locations from community stakeholders including local institutions, municipal Environmental Advisory Councils (EACs), the Chester Environmental Partnership, school districts, municipal governments, community groups, and more. Delaware County will conduct outreach in coordination with community partners including the Chester Environmental Partnership for public awareness and community engagement. It will help develop materials to communicate with the public before the air monitors are installed. These materials will explain what the devices look like, their safety, the purpose of the monitors, and the project scope so that the community can be engaged and reassured. The County will partner with existing community groups including the senior centers, the school district, the Foundation for Delaware County, and other local leaders to help distribute the materials and communicate about the project.

Delaware County recently created its Office of Sustainability and Sustainability Commission, which are concerned with the air quality in the County and particularly in its underserved communities. This project will help the County begin to address these concerns and formulate strategies for mitigation.

Delaware Valley Regional Planning Commission (DVRPC) DVRPC has committed to helping Delaware County identify sources of air emissions and census tracts with concentrations of environmental health issues through a Fiscal Year 2023 Unified Work Program Project. If awarded, this grant will support that effort by providing real time data regarding air pollution concentrations near sources of emissions and in the communities suffering from respiratory health conditions. DVRPC will support the monitoring project by raising awareness of the project through the Commission's standing committees, task forces,

and partnerships in the communities that may benefit from this project. This proposal supports shared goals of improving local and regional air quality and improving the health and quality of life of the citizens of our region (letter of support)

Johns Hopkins University will be a partner via participation of Dr. DeCarlo and his research group in the Department of Environmental Health and Engineering. Dr. DeCarlo is an atmospheric chemist with a focus on air pollution measurement. He has also served as an AAAS Science Policy Fellow at the US EPA in the Office of the Science Advisor and as the US Department of State Air Quality Fellow for Nepal. His research group has expertise in measurement of air pollutants, source apportionment, data analysis, and communication of air quality data. Dr. DeCarlo will work with PA DEP and other partners to analyze and summarize the data generated by the Modulair and Modulair PM sensors for use by PA DEP and communities in the study area. This builds from a pilot project that Dr. DeCarlo leads utilizing the same sensor technology deployed at multiple locations across the US. (letter of support)

Center of Excellence in Environmental Toxicology (CEET) will be a key partner in the facilitation and implementation of community engagement efforts. The CEET is an NIEHS funded P30 Center for Environmental Health. Dr. Marilyn Howarth, Director of the Community Engagement Core of the CEET, has worked in Chester City on air pollution and health effects for nearly 10 years and is a respected communicator on health and medical topics. Through numerous community partnerships established over the years, Dr. Howarth will work with Delaware County initially to communicate the purpose and importance of the study and subsequently communicate the results and the implications of the study to community groups in Delaware County. The CEET has given numerous presentations at meetings of the Chester Environmental Partnership, the senior center, City Council, Boys and Girls Club, and community forums and developed print and social media messaging around environmental health topics. Dr. Howarth is committed to making materials relevant and approachable for all members of the community. (letter of support)

Chester Environmental Partnership (CEP) is a broad-based organization with representation from the community, federal, state, and local government, local solid waste incineration facilities, industry, businesses, local churches, non-profit organizations, universities, and healthcare institutions committed to improving the environment in Chester and surrounding communities. The CEP will facilitate engagement with community members and businesses for monitor placement and for dissemination of results. (letter of support)

The City of Chester and Marcus Hook Borough will support this project with local knowledge and on-the-ground coordination, as well as being another avenue for citizen and citizen group communications. They can assist in identifying potential monitor locations through their Departments of Public Works and their publicly owned properties. They will also be able to support community engagement efforts and outreach.

The Foundation for Delaware County (FDC), has been addressing critical needs in Delaware County through its public health programs for nearly 30 years. The FDC is focused on supporting healthy families—beginning at birth. Their programs are designed to improve birth outcomes, maternal and child health, and overall well-being for the families they serve ensuring access to the services they need to be physically and mentally healthy. The FDC also works to address public health through grantmaking and other initiatives such as providing critical assistance to the county as it launches its first public health department. Delaware County has relied on the foundation to provide strategic assistance with

funding, planning, education, and communications. For this project, the FDC will engage its clients to facilitate monitor placement; study results will be communicated through its many programs for families in Delaware County. (letter of support)

Community Engagement

Anne Stauffer and Dr. Marilyn Howarth will take the lead on community engagement. Engagement will occur throughout the project using multiple methods. We will hold meetings either in person or on zoom with the CEP, the Foundation for Delaware County and Marcus Hook EAC gathering insight into areas of community concern and air pollution sources that may not be readily apparent. This information will be incorporated into the plan for locating monitors. Once monitor locations are identified, we plan to inform residents about the purpose of the project. We will accomplish this through radio, print and social media. A fact sheet about the project will be mailed to all study area residents. The monitors will all be labeled as air monitors with a contact telephone number for questions. Dr. Howarth has extensive experience in risk communication and longstanding relationships within the study area. She and Ms. Stauffer will collaborate with community partners from the CEP and the Foundation for Delaware County to produce accessible data visualizations and reports for audiences in the region. They will make presentations to audiences and engage school groups as appropriate around the data and its analysis. They will ensure that data collected in locations recommended by the community partners are highlighted to answer their specific questions. Dr. Howarth will engage with regulators, legislators and the DVRPC regarding the health implications of the data. Ms. Stauffer will engage with municipal partners in the study area, presenting the data to form a basis for policy that will improve health by decreasing exposure.

Interim reports will be made available to community partners. We are committed to quarterly data analysis to continue the engagement process as data is being collected and the project is ongoing.

Environmental Justice

Study Area Socioeconomic Indicators

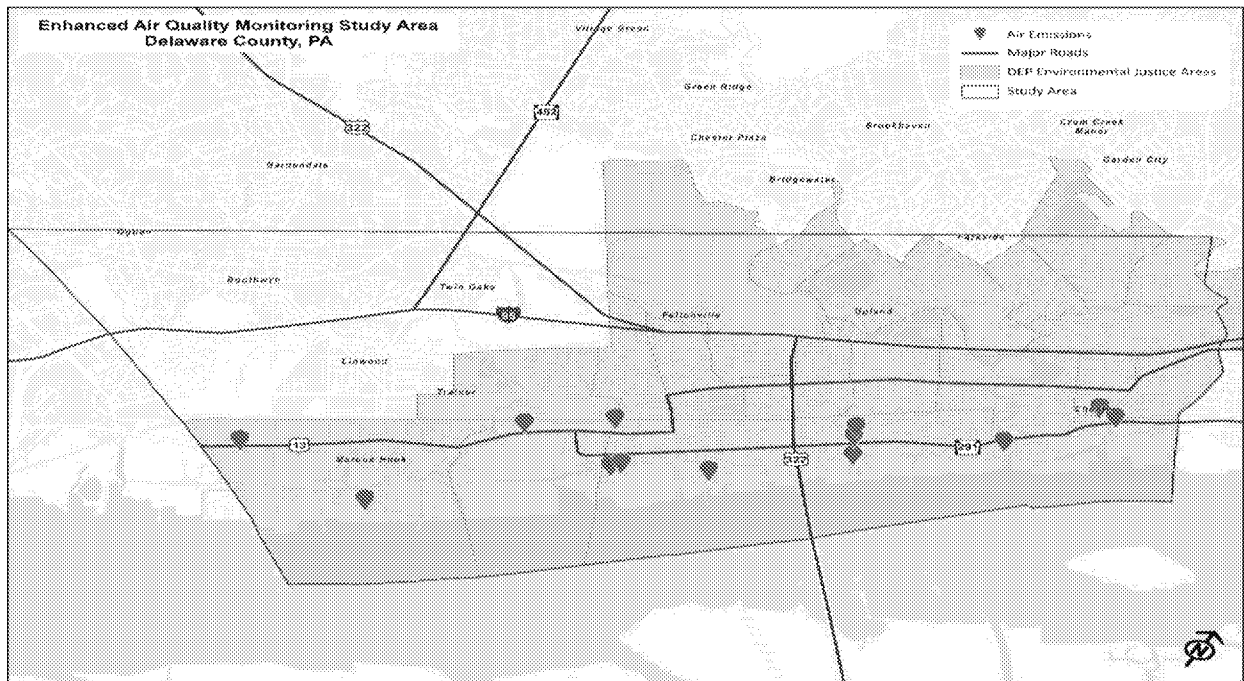
Most of the project study area is in Environmental Justice communities. The high percentile values for socioeconomic indicators and exposure to selected variables (traffic and PM_{2.5}) in the EJScreen Tool version 2.0 report show that the study area for this project is comprised of underserved communities at risk for exposure to hazardous air.

According to the EPA's EJScreen tool, there are approximately 54,888 people living within the 12.35 square-mile study area. Most of the study area is home to communities/people of color and low-income populations. For the entire study area, 67% of the population are people of color, which is the 88th percentile for PA and 76th percentile for the country. In the study area, 50% of the population is low-income which is the 85th percentile for PA and 80th percentile for the country. These values become more extreme when one focuses on the City of Chester.

With a population of 33,982, the City of Chester has a population that is 83% people of color and 57% low income (EJScreen Report). The City is in the 92nd percentile in PA and 80th percentile in the country for people of color, and it is in the 89th percentile in PA and 86th in the country for low-income population. It was once a thriving manufacturing center, but manufacturing in the City began to decline in the 1960's. The population dropped from 66,000 in 1950 to 34,000 in 2010.

The PA DEP's definition of an Environmental Justice area is "any census tract where 20 percent or more individuals live at or below the federal poverty line, and/or 30 percent or more of the population identifies as a non-white minority, based on data from the U.S. Census Bureau and the federal guidelines for poverty." All of Chester City, Chester Township, Upland Borough, Trainer Borough, and Marcus Hook Borough are Environmental Justice areas by this definition. The study area map shows the census tracts that meet this definition.

Figure [SEQ Figure * ARABIC] - Study Area with Census Tracts



Exposure to Selected Variables

The EJScreen Report, as well as the US Census Decennial Census 2010 data, clearly show that the study area is home to environmental justice communities in Delaware County. It also reports on the exposures to hazardous air. The EJ index for Traffic Proximity for the study area is in the 97th percentile in PA and the 93rd percentile for the country. The EJ index for PM_{2.5} is in the 88th percentile in PA and 76th percentile in the country.

Health Burdens

The Environmental Justice communities of the study area have disproportionately high health burdens. The Climate and Economic Justice Screening Tool identifies disadvantaged communities through publicly available, nationally consistent datasets (Council on Environmental Quality). Table 1 below shows the percentiles of asthma, diabetes, and low life expectancy by census tracts for the tracts in our study area. Each of these tracts are identified as disadvantaged by the tool. Every census tract is over the 90th percentile for asthma. In fact, more than half are in the 97th percentile or above. Ninety percent of tracts with data are above the 90th percentile for low life expectancy.

Table [SEQ Table * ARABIC] - Census Tract Data

Census Tract	Asthma Weighted percent of people who have been told they have asthma (percentile)	Diabetes Weighted percent of people ages 18 years and older who have diabetes other than diabetes during pregnancy (percentile)	Heart disease Weighted percent of people ages 18 years and older who have been told they have heart disease (percentile)	Low life expectancy Average number of years a person can expect to live (percentile)	Low income Household income is less than or equal to twice the federal poverty level
42045404800	98	93	69	NA	96
42045404900	99	97	90	NA	97
42045405000	98	97	88	92	92
42045405100	97	96	85	91	81
42045405200	99	98	95	98	92
42045405300	98	93	67	85	89
42045405400	98	90	60	97	89
42045406300	91	77	76	96	69
42045406402	96	97	93	99	84
42045406500	91	60	69	99	84
42045406600	94	63	74	96	83
42045410700	97	95	82	98	93

Data Source: [[HYPERLINK "about:blank" \I "14.14/39.83633/-75.39155" \]](#)

Environmental Results

Expected Project Outputs and Outcomes

The immediate **outputs** of the Delaware County Waterfront Air Quality Monitoring Project are raw data and community networks.

- Installation of up to 50 Quant AQ Modulair PM units throughout the study area with units outside of the study area for comparison.
- Installation of 10% of the total Quant AQ Modulair PM sensors with Quant AQ Modulair multi-pollutant and meteorology units.
- Near real-time, temporally, and spatially dense datasets of PM₁, PM_{2.5} and PM₁₀.
- Quantification of O₃, NO, NO₂, and CO.
- Seasonal data for a timeframe of at least 2 years.
- A network of collaboration of Local Governments, community groups, researchers, and stakeholders that are already working in the study area
 - Extensive Community Outreach and Communication strategy before the air monitors are installed, throughout the project and in the post project period using the data
 - Identification of locations for monitors
- Development of a substantial set of spatially and temporally diverse data for use in future planning efforts and environmental mitigation.

Outcomes

- Short-term Outcomes
 - Heat Map and extemporal hot spots of high PM levels identified
 - Ongoing regional and local dialogue and collaboration

- Ongoing data analysis – More data will be collected than can be analyzed in the project timeframe. The data will be kept open and available so that researchers and scientists can continue to analyze the data
- Identification of the problem – sources previously known and unknown
- Validation or alleviation of community concerns
- Intermediate Outcomes
 - Craft strategies to mitigate the problems identified in the short-term outcomes
 - Community organizations use data to make health-based recommendations to members
 - DVRPC incorporates data into their infrastructure planning decisions and Healthy Communities Task Force activities
 - Municipalities use data to consider changes in routing of traffic, greening, permitting, regulations on building codes
 - Researchers use granular exposure data to perform studies on health associations with greater power than previously possible
- Long-term Outcomes
 - The improved understanding of cumulative impacts to Environmental Justice communities leads to regulation that better protects them leading to reduced health disparities.

Performance Measures and Plan

The progress of the project will be evaluated by the following performance measures:

- Sufficient data collection
- Timely execution of proposed tasks
- Timely submission of project deliverables
- Degree of community involvement
- Timely and efficient expenditure of funds

Timeline and Milestones

Phase I of the project will consist of ordering, receiving, and field testing the sensors and preparing the sensors for deployment, followed by community engagement. Concurrently, potential site locations will be identified and evaluated, resulting in selection of the study locations. Phase I of the project should take approximately six months. (10/2/22 – 4/1/23)

Phase II of the project will consist of the collection of data from the deployed sensors. Data will be collected for up to two years at each site location. Data visualizations will be created, and community engagement will continue. Data collected during one quarter in the project will be quality assured and analyzed by the end of the following quarter. (4/1/23 – 4/1/25)

Phase III of the project will consist of a final report to EPA outlining the analysis of the quality assured data. Engagement of all stakeholders and community partners around the data, leading to a plan for additional analysis and use. This phase of the project will take approximately six months from the end of the data collection period described in phase II. (4/1/25 – 9/30/25)

Quality Assurance Statement

Please find the *Quality Assurance Statement* in the attachment.

Programmatic Capability and Past Performance

Past Performance and Reporting Requirements

PA DEP has a history of obtaining and successfully completing projects per grant requirements. PA DEP was awarded a Community-Scale Air Toxics Monitoring Grant in 2007 to monitor trichloroethylene and related compounds in the Collegeville and Pottstown areas. These successful projects led local industries to either switch solvents or install control equipment. PA DEP currently runs a successful air monitoring network of over 70 sites that includes funding from both the 103 and 105 grants. In 2020, PA DEP was awarded a multi-purpose grant to monitor for methane. This project is on-going and progress reports have been submitted in a timely manner. COVID-19 impacted the projects, and PA DEP and EPA worked cooperatively to adjust timelines relating to supply chain issues obtaining equipment and completing tasks. Funds for all grants have been expended in a timely manner and in accordance with EPA grant requirements.

Staff Expertise

Nicholas Lazor, Chief of the Air Monitoring Section at PA DEP, has more than 10 years of experience monitoring and overseeing multiple types of EPA grants. And over 25 years of air monitoring experience.

Donald Torsello, Chief, Field Operations and Monitoring at PA DEP, has over 25 years of air monitoring experience and more than 7 years' experience managing statewide air monitoring networks.

Sean Nolan, Chief, Quality Assurance at PA DEP, has over 9 years' experience managing the quality assurance program for PA DEP's statewide network.

Ellen Davies, Chief, Air Toxics Monitoring at PA DEP, has 3 years' experience managing a diverse series of special monitoring projects for PA DEP.

Budget

Line Item & Itemized Cost	EPA Funding
Personnel	
QA: 0.25 FTE x 1 year@ \$72,372/year	\$18,093.00
TOTAL PERSONNEL	\$18,093.00
Fringe Benefits	
68.7% of Salary	\$12,430.00
TOTAL FRINGE BENEFITS	\$12,430.00
Equipment	
12 Modulair @ \$5250	\$63,000.00
Total Equipment	\$63,000.00
Supplies	
55 Modulair-PM @ \$1295	\$71,225.00
10 Solar Kit @ \$495	\$4,950.00
10 Sonic Anemometer @ \$750	\$7,500.00
67 QuantAQ Cloud @ \$300/year for 3 years	\$60,300.00
50 Utilities @ \$300/year for 3 years	\$45,000.00
Total Supplies	\$188,975.00
Other	
Delaware County	\$37,000.00
Johns Hopkins University	\$50,000.00
Total Other	\$87,000.00
Indirect Charges	
Total Indirect Cost Base	\$30,523.00
Indirect Charges (26.03% of Salary + Fringe Benefits)	\$7,945.00
Total Indirect Charges	\$7,945.00
Total Funding	\$377,443.00
Total Project Cost	\$377,443.00